Overcoming Barriers to Effective Environmental Aid: A Comparison between Japan, Germany, Denmark, and the World Bank

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How Have Donors Overcome Barriers to Environmental Aid? A Comparison of Japan, Germany, Denmark and the World Bank

ABSTRACT

When donors started environmental aid, they faced three types of barriers that made it ineffective: conflicting concerns, contracting problem, and lack of capacity. Donors have adjusted environmental aid on two levels. One is to change policy contents, and the other is strategy to convince recipients to change policies. However, they have adjusted policy contents and strategies in different ways. This paper picks up Japan, Germany, Denmark and the World Bank to makes a comparison on how they adjusted environmental aid and what results were.

The main findings are as follows. First, to overcome the barriers, donors changed strategy for convincing policy change and/or shifted their focus on lower-income recipients to take advantage of asymmetric power relations, while slightly adjusted initial policy contents and design within the same environmental discourses. Second, responses to the barriers varied among donors, reflecting their policy orientation in the environmental discourse, power relationship with recipients, and resource mobilization capacity. Third, sustainability and enforcement of the changes policy depends mostly on the policy contents rather than policy change strategy.

1. Introduction

In order to respond to massive campaigns of non-governmental organizations (NGOs) to prevent or mitigate negative environmental impacts of donor assisted projects and programs, donors launched environmental projects and programs in the framework of official development assistance (ODA). Donors have increased the amount of environmental aid, but have not changed all the ODA into environmentally aid. The extent of greening varies among donors (Hicks et al, 2008).

In addition, definition of environmental aid differs among donors. This difference can be attributed to how they define solutions as well as how they define environment. This implies there are nontrivial differences in environmental discourses that decide policy contents of environmental aid.

From the outset, environmental aid faced several barriers and obtained lower performance than expected. Donors have adjusted environmental aid to overcome these barriers, but have taken different ways. This can be attributed to policy contents as well as donors' strategies that take advantage of power and resource mobilization capacity for convincing recipients.

This paper focuses on the differences of environmental discourses, policy contents and strategies to examine how donors adjusted policy contents and took strategies to overcome the barriers and what outcomes they have achieved. It takes Japan as a center of analysis, and makes a comparative analysis with Germany, Denmark and the World Bank, for besides Denmark all of these donors have both concessional loan and grant windows.

2. Inherent Barriers to Effective Environmental Aid

Keohane (1996) points out the three types of barriers to effective environmental aid. First is conflict of concern or difference in priorities between donors and recipients. It refers to the interests in environmental conservation expressed by potential donors, recipients and governments involved in a financial transfer. Donors tend to have higher concern on environment while recipients on economic growth. Even if recipients have environmental concern, they often place higher priority on domestic environmental degradation than transnational or global environmental problems that donors have higher concern. Finally, recipients are unwilling to adopt policies that are not consistent with existing regulations, institutions or policy style, and the existing interests of influential domestic actors. They tend to favour technological solution than policy change, and policies that have impacts within a manageable level. When adopting stringent policies urgently, they often emulate or refer to other countries' successful policies to avoid uncertain outcomes and to increase the legitimacy their actions (Jörgens, 2004). Conflict of concern or difference in priorities raises political tensions and drops the effectiveness of environmental aid.

Second is contractual problem. It relates to negotiations regarding distribution. Both donors

and recipients seek to maximize the benefits they receive and shift costs to others. Unless both of them have at least some confidence in the credibility of their partner's commitment, no agreement will be reached. Even when agreements are reached, they have incentive to behave strategically. Recipients may face the danger that, after making policy changes that are politically or economically costly, donors will renege on their financial commitments. Donors also worry that recipients may renege on their commitments, or divert the aid to other purposes.

Third is lack of capacity. Recipients do not always have enough techniques, analytical tools, incentives and organizational structures to decide and manage the aid effectively. Fragmentation, sectoralization, policy independence, weak institutional pluralism and lack of community-driven initiatives further lose aid ineffectiveness.

Lack of capacity occurs on the part of donors. Donors may have limited knowledge, policy and techniques to address the problems properly. Institutional arrangements in donor countries impose constraints in mobilizing resources, experts and technologies in implementing aid.

These three barriers are closely intertwined. Conflict of concern and significant difference in policies reduces recipients' incentive to comply with the agreements in the environmental aid, thus gives room for strategic behavior that seeks short-ranged benefits. Lack of capacity lowers the effectiveness of aid, and thus credibility to the commitment of the counterpart, which led to strategic behavior.

3. How to Overcome Barriers?

Donors can address these barriers on two levels. One is to change policy contents in environmental aid. However, policy contents are profoundly intertwined with the recognition, institutions, policies and thus environmental discourses in their home countries. Donors can change the fields, targets and recipients at focus, but are often hard to completely change policy contents into the ones that are based on different environmental discourses.

The other is to change strategies to convince recipients to change policies. Taking advantage of an asymmetric power relationship, donors often unilaterally imposed their policy change requirements at the outset when recipients suffered from foreign debt crisis. However, imposition considerably engenders effectiveness (Ross, 1996). It can promote environmental reforms in "soft" cases, where reform is impeded only by a lack of concern or information and not by a politically influential constituency. In "harder" cases where reform is opposed by powerful domestic interest groups, conditionality may be useful if the government is willing but not politically able to carry out the environmental reforms. Recipients can refuse aid as long as they find alternative financial resources by themselves.

This prompts donors to take diffusion strategies. Recipients have incentive to learn or imitate

policies of donors when they need to address the problem urgently. They even take the same policy and technological solution when they recognize that these policies can solve the problem without incurring significant distributional impacts (Jänicke, 1997). In this regard, environmental aid can be an instrument to diffuse policies and technologies. Diffusion of knowledge of policies or best practices can be encouraged when donors enhance transnational channels of communication. But it premises no formal or contractual commitments towards other governments or international organizations that enforce a certain policy (Jörgens, 2004).

Linking with multilateral environmental agreements can be another strategy to confirm recipients' firm commitments. Recipients are free to engage in multilateral decision-making and to actively influence its outcome, but they are more or less obliged to comply with the agreement once an agreement is concluded. Environmental aid can be an instrument to encourage recipients to join in the negotiations to address collective, typically trans-boundary problems, and give reasons to utilize monitoring and sanction of international society in the name of harmonization.

4. Divergence in Donors' Policy Contents: Portfolio Analysis

The OECD-DAC defines two types of ODA as environmental aid: those ODA that environment is primary purpose and those that environment is an important secondary purpose. This definition is based on the idea that environmental protection should not be done only within the environmental sectors, but can be done in all the sectors through changes of, for example, production method or decision-making. This is the reason donors have committed provision of environmental aid in a variety of sectors.

Figure 1 reorganizes the OECD-DAC ODA statistics to show allocation of environmental aid by purpose. It shows the clear differences of the focus on environmental aid among donors. The International Bank for Reconstruction and Development (IBRD) has allocated more than 80% of environmental aid to environmental policy and administration. The International development association (IDA) also has allocated more than half to policy and administration and about 15% to biodiversity conservation. This implies that IBRD and IDA have not counted on sector loans as environmental aid. Relatively large share of biodiversity can be explained by the influence of the Global Environmental Facility of which the World Bank is one of the implementing agencies and have been spent as a leverage of concessional lending (Clémençon, 2006).

Figure 1 also shows that the United States has allocated more than a quarter to policy and administration, followed by industry and biodiversity conservation. Most of environmental aid to these sectors consists of program instead of project aid. This signifies that IBRD, IDA and the United States have made attempts to induce policy and institutional changes in exchange of credit to mitigate the political, economic and social costs of changes.

In contrast, Japan, Germany and Denmark has allocated much little share to policy and administration. Instead they have done more than half to such sectors as water and sanitation, transport, energy and agriculture.

However, there is a difference in the focus between Japan, Germany and Denmark. Figure 2 shows that Germany and Denmark have allocated environmental aid to both policy and renewable energy development in energy sector –though the share of policy and administration is far less than the United States and United Kingdom-, while Japan to fossil fuel power plants and gas supply. This implies that although Germany and Denmark have not assisted energy sector reform including privatization and deregulation, they have assisted recipients to adopt policies to develop renewable energy, as well as to diffuse renewable technology. In contrast, Japan has assisted investment on energy efficient technologies, including renovation of coal-fired power plants and enhancing transmission and pipelines.

Similar trend can be seen in water sector (Figure 3). Again, United Kingdom, Sweden and the United States have the largest share in policy and administration, meaning that these donors initiated to assist water sector reform including privatization and deregulation. Denmark and Germany have a smaller share in policy, but a larger share in basic water and sanitation. This implies that they have paid more attention to rural water supply and sanitation to eradicate poverty and local decentralized integrated water resource management that are planned to promote stakeholder involvement. Japan has provided most of environmental aid to large water and sanitation system, implying that it has focused on large cities and often assisted to construct river-basin wastewater management systems that can treat huge amount of wastewater rapidly.

These features imply that donors have taken different environmental discourses in formulating policy contents in environmental aid.

5. What Donors Have Changed? Case Studies

However, these donors did not fix these policy contents and strategies at the outset. They have adjusted policy contents and strategies time to time to respond to the evaluation of poor performance.

5.1 Japan

5.1.1 Initial policy contents and strategies

Upon the request-based principle, Japan assisted recipient governments to solve serious environmental pollution. To avoid criticisms of policy intervention while to ensure proper use of financial resources, Japan preferred project rather than program aid or budget supporting aid. Serious environmental pollutions caused at Japan-assisted power plants in Southeast Asia directed

the focus of environmental aid toward project-based, technological solution. This feature is consistent with policy content of the weak ecological modernization that focuses mostly on the technological solution, and favors a technocratic and/or corporatist style of policy making monopolized by scientific, economic and political elites (Christoff, 1996).

Among technological solution, Japan has favoured environmental infrastructure development in technological solutions (Potter, 1994) and on capacity development (Matsuoka, 2007). Recipient governments often lack necessary experience and expertise in environmental management, which often hindered effective implementation of environmental aid, made it difficult to create a reference that can be diffused to other areas, and impaired local ownership and authority. For the purpose of enhancing recipients' capacity to solve environmental problems, Japan applied its traditional logic of development aid: "self-help," (Watanabe, 1991), to diffuse knowledge, technical measures and experience (Japanese MOFA, 1997).

Aid for capacity development was, however, technical in general and focused mostly on industrial pollution control. There are several reasons for this. In the process of industrial pollution control, Japanese initiated development of cleaner production technologies by themselves and/or in consultation with manufacturers to reduce the cost of compliance. These technologies include coke dry quenching, coke oven gas recovery equipment, and top pressure recovery turbine generating system at the blast furnace of steel sector. This effort enabled them to obtain competitive advantage in technological solutions, and firms regarded it as a source of competitiveness. This gave firms incentive to keep them secret[1]. In addition, they considered invented technologies too plant specific and embedded with production technologies and workers to break into modules. Private firms were not involved in such aid projects unless they could find high opportunity to obtain loyalty revenue and/or sell large scale, expensive production technologies (Evans, 1999). This restricts transfers of proven technologies on a commercial basis, and posed constraints to the tools of assistance to demonstration projects and training at plants located in Japan.

Furthermore, Japan has hardly expanded the target of ODA outside of public sector. Knowledge, policies and technologies were limited to the ones that recipient governments can accept. They are; (a) source investigation, frequent sampling, continuous environmental monitoring, on-line continuous monitoring and environmental monitoring, (b) pollution control agreement as a voluntary environmental agreement between the local government and a firm, (c) inter-governmental fiscal transfer that enables local governments to develop and manage environmental infrastructure properly, and (d) environmental soft loans that encourage private firms to invest in pollution prevention. It has assisted little, if not at all, capacity development of local governments, courts and civil society so that they can enhance institutional pluralism and enlarge

people's opportunity for participation.

5.1.2 Aid to end-of-pipe technology as a typical example

One of the major focuses was coal-fired power plant. Japan adopted a series of air pollution control measures, ranging from fuel conversion and energy saving to electric precipitators and fuel-gas desulphurization (FGD). FGD was developed in the 1920s but it was not until the 1970s, when the oil crisis hiked the price of low sulphur crude oil and made FGD cost-effective, that it became practical use. By 1998, more than 2,500 FGDs has been installed in Japan. Germany and the United States have also installed many numbers of FGDs after they had adopted stringent emission standards and monitoring system for coal-fired power plants.

Referring to this domestic experience, Japan assisted coal-fired power plant to install fuel-gas desulphurization (FGD) that had faced fierce protests. However, it has rarely convinced recipients to adopt stringent emission standards and strict implementation, thus has discouraged them to operate FGD properly, for FGD does not bring profit to power plants[2]. As for the Calaca coal-fired power plant, the Philippines government has not implemented strict monitoring nor allowed operation costs to be transferred to the tariff, while requiring the plant to continue to use local coal with high sulphur content. This, coupled with the adverse impact of the Asian economic crisis, has made the plant's financial status worse. Despite of the financial aid, the Mae Moh lignite-fired power plant in Thailand discharged such a huge amount of sulphur dioxide that more than 1,000 local people were admitted to hospital. At that time the Thai government did not set up stringent emission standards, did not enforce the power plant to improve or suspend operations, and did not allow plants to transfer costs of FGD to the tariff. The plant bought low sulphur imported crude oil to reduce emissions, but at an increased cost. It had little incentive to control emissions beyond its financial and technological capacity. This incident led the Thai people to believe that FGD could not solve air pollution, and provoked countrywide opposition to new coal-fired power plants.

Such a low performance can be seen in the assistance for wastewater management project. Japan gradually improved serious water pollution by taking a series of measures consisting of (a) strict enforcement of stringent effluent standards for industrial plants, including public disclosure of violating firms; (b) subsidized loans for the investments on wastewater treatment system, cleaner production and renovation; (c) development of public sewerage systems that allowed discharge of both industrial and domestic wastewater; (d) setting effluent standards for both inflow and outflow of public sewerage system; (e) wastewater tariffs; and (f) collaboration with the police for strict monitoring, inspection and policing of illegal discharge. Referring part of this experience, Japan provided financial assistance to develop sewerage system, and technical assistance to operation and

maintenance techniques and institutional capacity for regulation and tariffs.

However, these initial assistances have often been provided separately without ensuring recipient's strict enforcement of stringent effluent standards and of treatment charge that gives incentive to reduce wastewater to firms. A typical case was the Samut Prakarn Wastewater Management Project in Thailand. To solve water pollution on the outskirts of Bangkok, the Asian Development Bank, Denmark and Japan provided assistance to develop large sewerage system that could treat both industrial and domestic wastewater there. Originally this project consisted only of construction of sewerage system and wastewater tariff for cost recovery. But it faced fierce protests both from residents near to the project site and from firms that were to discharge wastewater to the sewerage. Local residents insisted that the government had decided the design and site without environmental impact assessments and public hearings that were stipulated in the Constitution, and also that it had too much capacity when considering the government mandate on in-plant treatment. Large firms claimed it irrational to treat their wastewater at the sewerage system and to pay tariff because they have already invested on in-plant treatment plants to comply with the Factory Law. To convince these oppositions, Thai government, with Danish assistance, added source monitoring, inspection and cleaner production as project components. Nonetheless, the Department of Industrial Works, the authority in charge of factory affairs, placed priority on industrial development and was not serious about development of capacity for source investigations and monitoring that were essential to ensure the proper operation and management of the sewerage system. These factors, coupled with corruption over land purchasing, made the government failed to complete construction of the system (Mori, 2006). This failure made it extremely difficult for the Thai government to develop a sewerage system that treats both industrial and domestic wastewater, and to reduce industrial water pollution.

5.1.3 Adjustments

These initial low performances of environmental aid projects, coupled with few requests from recipients, forced Japan to adjust both policy contents and diffusion strategy. To achieve its international commitment to the increasing amount of environmental aid, Japan expanded the range of environmental aid widely to include energy and transport sectors and prompted assistance for construction of environmentally benign infrastructure such as district heating systems, mass transit system and subways.

Adjustments were made within the same assistance program. Environmental soft loan program was a typical case of adjustment. Japan provided environmental soft loan and gave tax privileges as a complementary measure to stringent environmental regulations to control domestic industrial pollution. Referring to this domestic experience, Japan diffused environmental soft loan

program to Indonesia, Thailand, China, the Philippines, Sri Lanka and India. However, it did not bring expected impacts in Indonesia and Thailand, because both Japan and recipients learned little of the sophisticated architecture that effectively encouraged pollution abatement investment while minimizing abuse that were often accompanied by policy directed loans (Mori, 2008a).

Faced with these difficulties, Japan adjusted the design of the program when initiating environmental soft loan program in the Philippines and Sri Lanka later on. One of the major adjustments was the shift the focus of technological specification from end-of-pipe to cleaner production. Japan was reluctant to give assistance in cleaner production because it was an embedded part of production technologies and thus was deemed an essential source of competitive advantage for private firms. Japanese private firms were convinced to take part only in assistance that offered them marketing opportunity through short-term demonstrations or experiments of latest technologies. Thus the adjustment of the design was made for the wider diffusion of technologies of Japanese manufactures. Rather it implicitly assisted recipients to replace technology-based emission standards to cost-effective measures for pollution reduction. In addition, Japan provided technical assistance for handling banks to acquire technical standards of both end-of-pipe and proven cleaner production technologies and to share with potential customers prior to the loans. It also encouraged handling banks to enhance capacity of their local branch and to collaborate with local banks so that they could explore potential demand for environmental soft loan and make it as a source of revenue. It adjusted the program design so that terms of conditions for the firms were kept between a positive real lending rate and the market rate.

Japan also adjusted diffusion strategies in two lines. First, it relaxed terns of conditions of the concessional environmental loan and enhanced its own capacity to fund out environmental projects. Under the request driven principle, Japan could assist prominent environmental projects as long as recipients made a firm commitment and submit a request. However, concessional loan hindered recipients to make requests, for recipients declined the idea of borrowing loan for the environment that did not generate source of revenue for return. Relaxing terms of conditions was regarded as preconditions for raising demand for environmental aid.

Second, Japan shifted the focus from Southeast Asia to China, which were deemed to cause trans-boundary air pollution but had prepared draft five-year and long-term environmental plan and were about to make a commitment to pollution control. It provided three quarter of the environmental aid to China, amounting to US$10 billion during 1995-2004. All of them were financial assistances to environmental projects that Ministry of Environment had drafted in the plan to control serious industrial pollution, such as renovation of industrial plants, installation of FDG, on-site and environmental monitoring equipments, public wastewater treatment system, and development of gas and heating system.

5.1.4 Effectiveness in overcoming barriers

Adjustment in project design has encouraged market-based diffusion of pollution control and cleaner production technologies in new projects in the Philippines and Sri Lanka (Mori, 2008a). This is because environmental soft loan made both recipient governments easier to implement the existing environmental impact requirements, overcame mismatch of environmental technology between handling banks and firms, and prevented improper spending. Existing easy access to environmental consultants provided a favourable condition for technology diffusion.

More concessional terms of conditions also has helped to overcome barriers of conflicting concerns and contracting. This was apparent in the significant increase in the amount of environmental aid provision. Japan provided environmental aid about US$ 55 billion during 1995-2005, of which half was provided during 1995-1997. In China, with firm commitment of the Ministry of Environment to the implementation of projects and pollution reduction, these aid projects has achieved high performance, rendering significant improvement in air and water quality in several cities, without serious policy intervention on the part of Japan (Mori, 2008b). In the process, Chinese governments became confident about the effectiveness of the package of stringent environmental regulations and technological solutions. After the Japan-assisted plant renovation and adoption of management system at the Gaobeidian wastewater treatment plant, Beijing government imposed stringent regulations for the inflow of wastewater and pursued further plant renovation to clean up the wastewater, and diffused technologies and management skills nationwide. Environmental aid for renovation of outdated industrial plants had unintentionally demonstrated economic and environmental benefits of cleaner production to the governments and state enterprises (Mori, 2008b). Coupled with domestic motives and influence of environmental aid from other donors, the Chinese government enacted the Cleaner Production Promotion Act in 2003, gradually removed fuel price subsidy and convinced several provincial governments to mandate cleaner production audits to large industrial plants. Assistance for installing FGD also had also demonstration effect, and the State Environmental Protection Administration adopted more stringent environmental policies once it understood the effectiveness. It reformed the emission levy to charge the amount of sulphur dioxide separately from other pollutants. It mandated phasing out of smaller plants that had a generation capacity less than 300MW, installing FGD to all the new coal-fired power plants, and installing on-line continuous emission monitoring systems to new coal-fired power plants located in urban areas so that local governments could check compliance on time. It mandated the state grid company to purchase electricity at a higher tariff so that power plants could recover the cost of FGD.

This signifies that Chinese government has got acquired enough capacity to learn to adopt

environmental policies to address the problems at issue by themselves. Furthermore, Chinese government gradually learned experiences of environmental policies from a variety of donors and adjusted it to the Chinese context. In this sense, Japan succeeded in overcoming almost all the barriers, at least in the environmental aid to China.

It should be noted, however, that this success also attributed to Chinese government's rising concern on the adverse impact of environmental pollution on the economic growth and higher willingness to learn the experiences of Japan that deemed to have similar economic and social structure, together with Japan's focus on domestic problems. As China caught up with Japanese environmental policies, it shifted attention to those of United States and Europe. Japan could find any more policies that could be diffused to China. It also failed to diffuse its fuel-gas desulphurization (FGD) technology in the market. Chinese government adopted FGD installation mandate, but the mandate did not describe efficiency rate. Strict implementation of this mandate created an opportunity for market-based diffusion, but it is German-China and US-China joint ventures that took advantage of this opportunity. German and the US manufacturers sold patents to Chinese manufacturers and let them customize the technology to meet the demand in China while secured profits from patents. This marketing strategy encouraged many Chinese manufacturers to join the market, developing low efficient but cheaper FGD, and starting mass production, because it was in conformity with Chinese government' policy on encouragement for domestic production. This has reduced the price of FGD by one-fifth over five years, and has given power plants additional incentive to install it. It is estimated that more than 60% of coal-fired power plants had installed FGD by 2005 (Horii, 2010). In the meanwhile, Japanese manufacturers missed the opportunity because they stuck to their own high efficient but expensive FGD and did not dare to take risk of technology drain.

This implies Japan lost the power of monopolistic diffusion of both policies and technologies for problem solution. Japan significantly reduced incentive to provide environmental aid.

5.2 Germany and Denmark

5.2.1 Initial policy contents and strategies

Germany and Denmark placed aims of development assistance on sustainable development after the United Nation Conference on Environment and Development. The German Technological Cooperation (GTZ) took its guiding corporate principle, and Danish government placed promoting sustainable development through poverty-oriented economic growth as its main objective[3]. Both countries also emphasized the role of private sector activities as a deliverer of development[4].

In the process, they applied the environmental discourse of strong ecological modernization to the environmental aid. This discourse sees environmental degradation as a structural problem that

can only be dealt with by attending to how the economy is organized, but not in a way that requires an altogether different kind of political-economic system (Hajer, 1995:25). To respond to the growing dissatisfaction with regulation, Germany, Denmark and Netherlands adopted "innovative" policy instruments such as eco-tax, voluntary agreements and eco labels to solve domestic environmental problems. In the meanwhile, they tried to push European Unions and other international negotiation to adopt ambitious target with their "innovative" policies and to show them as good practices (Beurmann, 2000). This activity brought to the idea of cross boundary horizontal policy learning and market-based technology diffusion. Yet, governments tend to perceive these policy instruments higher political, economic and social costs at least in a short-term, and may cause fierce opposition. Packaging with the well-functioning environmental governance is required to apply pressure vertically to firms through local residents, NGOs, consumers, stockholders and international organizations as well as the national government, and horizontally through competitors.

5.2.2 Aid to cleaner production as a typical example

To realize their aid objectives, Germany and Denmark, together with the United Nations have initiated assistance for cleaner production, as a response to the Rio Declaration that requires access, transfer and effective transfer mechanisms for environmentally sound technologies. The United Nations Industrial Development Organization (UNIDO), United Nations Development Programme (UNDP) and the Swiss State Secretariat for Economic Affairs (SECO) established cleaner production centres to assist capacity development through awareness-raising programs targeted at industry and trade associations as well as various types of stakeholders as a precondition for effective demonstration projects, demonstrations of cleaner production audits to compensate for the lack of local example, and to show the scope and potentials for cleaner production; training programs to develop local expertise and consultants on cleaner production, coordination of various kinds of foreign assistance programs and dissemination of information on cleaner production. Germany, the United States and Denmark have assisted training programs and demonstration projects to diffuse such know-how as waste minimization, pollution prevention and environmental management, and have given policy advice that can promote cleaner production (Gallup and Marcotte, 2004; Van Berkel, 2004).

In reality, however, assistance for cleaner production has not diffused the concepts and methods beyond the demonstration plants in most of the recipients (Mori, 2005; Rodhe and Kogg, 2001). Danish aid to Thailand and Malaysia has proven that most of the plants adopted only housekeeping and in-house improvements rather than process changes, and rarely made the costs and benefits of cleaner production options open to the other firms, let alone the technology itself, for fear they

might lose competitiveness in the market. The number of registered cleaner production auditors has not increased (Ministry of Foreign Affairs and Danida, 2003). German assisted environmental soft loan program encouraged firms to install cleaner technologies in Indonesia and the Philippines, but it is limited to new plants that are subject to environmental impact assessments and operational license, and hospitals that are subject to stringent wastewater standards.

Policy advice has also rarely been taken seriously. Germany, Denmark and the United Nations have often recommended the removal of price subsidies of raw material and utilities, adoption of a pollution charge and an environmental tax that would raise economic gains of cleaner production. They have also advised clear definitions of actual or potential environmental requirements that had encouraged attitudinal changes of firms in their home countries (Jørgensen, 2005). Many recipients, however, regard environmental targets as “add-ons” with low priority requirements, even if they have described them in their mid-term development plans (Mori, 2005). They have refused to adopt market-based instruments due to their significant distributional impacts.

5.2.3 Adjustments

This poor performance, together with other external requirements prompted both donors to make adjustments in environmental aid on three lines. First, together with the emphasis on poverty reduction after the World Summit on Sustainable development, they have shifted their country focus on lower income recipients. In the process, they enhanced knowledge production capacity to explain low-income recipients how environmental fiscal reform gives benefit to them (OECD, 2005). Also with the influence of the Comprehensive Development Framework and the Poverty Reduction Policy Paper, Germany paid attention to the ownership of the recipients. Greater ownership requires creating transparency, ensuring partner ownership of processes, gaining the participation of broad segments of the public and providing a processual orientation. In the process of assisting the National Strategies for Sustainable Development (NSSD), Germany adopted process-oriented program based approach (GTZ, 2000).

Second, Germany and Denmark assisted recipients to be involved in the meetings where conventions are designed and modified. This strategy aims to enhance their commitments as well as public acceptance to the conventions (GTZ, 2001). As recipient governments made stronger commitment to the Kyoto Protocol, both donors assisted recipients to adopt both feed-in-tariff and renewable energy technologies. Renewable energy has been one of the most prominent Clean Development Mechanism (CDM) projects. Recipients can take advantage of CDM to attain national priority such as increasing energy and power supply capacity, reducing blackouts, promoting electrification in remote areas, and avoiding air pollution, as well as to reduce greenhouse gases (GHG) emissions. However, many developing countries did not want to ratify

the Kyoto Protocol for fear of losing low hanging fruit as well as for the lack of knowledge of benefits. To encourage their ratification, both donors assisted capacity development to implement CDM, and to adopt feed-in-tariff to promote renewable energy at the same time.

5.2.4 Effectiveness in overcoming barriers

Germany and Denmark have overcome part of barriers of conflicting concerns and capacity for the environment. They succeeded in convincing Vietnamese government to draft environmental tax act as an instrument to raise awareness for the environmental responsibility of the business as well as to create favourable environment for promoting cleaner production[5].

They also succeeded in getting many recipients recognize that renewable energy could expand capacity for energy supply to meet increasing demand, enhance energy security, and take advantage of clean development mechanism (CDM) under the United Nations Conference on Climate Change (UNFCCC). Both donors provided technical assistances and demonstration projects to diffuse both policies and technologies for renewable energy. At the same time they assisted capacity development for formulating procedures and domestic institutions for CDM projects.

With these assistances, Thai government established the Designated National Authority to manage CDM projects, shifted the focus from energy conservation to renewable energy development, set the share of renewable in primary energy supply to 9.2 percent by 2011 as a target, and adopted feed-in-tariff for renewable electricity[6]. Chinese government also gradually changed its attitude and became proactive in CDM and renewable energy. It announced the Measures for the Operation and Management of CDM Projects in 2005 to publish that it offered preferential tax treatment for certain type of CDM projects, including renewable energy. Furthermore, the government formulated China’s National Climate Change Program in 2007 to declare an increase of the share of renewable in primary energy supply to 10 percent by 2010 as a target, and to describe carbon emission reduction by 30 million tons through the promotion of biomass energy. Besides, it enacted the Renewable Energy Law of the People's Republic of China to encourage renewable energy development in rural areas, to mandate the state grid company to purchase all he renewable electricity from the registered renewable power generation companies at a 0.25 RMB per kilowatt hour higher tariff than that of fossil fuel fired power plants, and to give the government authority to impose fine to the grid company that amounted to twice the economic loss of generation companies in case of incompliance. It finally adopted feed-in-tariff for renewable energy in 2009.

Diffusion of feed-in-tariff has created market for wind and photovoltaic power generation in recipient countries, giving opportunities for German and Danish manufactures to join in to gain profits. However, reaction varied among recipients. Due to strong opposition from the existing state power company, Thai government applied feed-in-tariff only for very small power plants and

small biomass power plants. Very small power plants could sell all the renewable electricity to the state distributors, but small power plants can sell it up to 4,000 megawatt to the state grid company, Electricity Generation Authority of Thailand. This policy design offered little market for German and Danish wind power and photovoltaic manufactures. China, in contrast, created an enormous market for them. But at the same time, policy change in China also offered Chinese manufactures opportunities to explore the domestic market, to upgrade the quality technologies and to enhance their international competitiveness to export photovoltaic to and/or join in German market where the consumers provide large amount of subsidy for photovoltaic electricity generation under the feed-in-tariff.

5.3 The World Bank

5.3.1 Initial policy contents and strategies

In response to growing criticisms of adverse environmental and socially impacts of its assisted projects and programs, the World Bank has increased the number and amount of environmental projects and programs since the early 1990s. In the process, it found that environmentally successful projects at local level were often undermined by perverse national politics that causes misallocation of resources, including distorted valuations of land, forest, minerals and water. Environmental management is deemed to be more efficient when a market mechanism is applied to society and the environment (Low and Gleeson, 1998). This diagnosis and evaluation led to the application of the logic of structural adjustment widely to environmental conservation, ranging from biodiversity and sustainable forestry, poverty and public health, to fundamental rights for indigenous peoples to access of environmental resources and society-wide rights of access to safe water (Mohan, 2000). It also proposed creation or restructuring of national environmental institutions to ensure efficient enforcement of the above policies.

The environmental discourse behind these policy contents is the green neo-liberalism (Goldman, 2005). It sees the misallocation of resources as the cause of environmental problems; under exiting social institutions, valuations of land, forest, minerals and water have been severely distorted, thus natural resources have been poorly utilized. Behind this is the recognition that intentional undervaluation of environmental resources and their underpriced provision has enabled developing countries' governments to gain political rent (Ascher, 1999), and that common property resources have become de facto open access, accelerating illegal use and overuse. Sustainable development is realized with a proper economic valuation of the environment, and for this to happen, social institutions that regulate the use of environments and allow their use on a non-profit basis should be transformed. The solution is the private ownership of environmental resources, transformation of community-managed uncapitalized lands into transnationally regulated zones for

commercial logging, pharmaceutical bio-prospecting, export-oriented cash crapping as well as megafauna preservation and eco-tourism. Environmental management is deemed to be more efficient when a market mechanism is applied to society and the environment (Low and Gleeson, 1998).

5.3.2 Typical examples in the initial stage

In the forest sector loan, it has imposed a package of policies that consists of (a) removal of policy distortions that drive a wedge between the world price and the domestic price of timber, as a means to proper valuation of forest resources, (b) revision of the concessions, including a rise in royalty fees, a lengthening of the concession cycle and increasing tenure security, competitive auctioning of concessions, and area-based concession fees, and (c) local participation in property rights, consulting process in decision making for resource use, revenue sharing, and greater decentralization and devolution of authority to address illegal logging (World Bank, 2000b).

In the water sector, the Bank assisted water sector reform including privatization of public utilities, full cost recovery and reduction of subsidies. The Bank recognized that public provision of the service caused (a) inefficient operation, inadequate regular maintenance and no preventive maintenance, (b) limited or no consumption metering, creating commercial losses, (c) excess staff, excess political appointments and intervention that lead to lack of adequate incentive, (d) slow connection to the sanitation service, which causes contamination of groundwater and endangers water sources (Idelovitch and Ringskog, 1995). It also perceived that water management was moving from being just a local issue to being a national and an international issue, which required new approaches to financing, dispute prevention and resource management (World Bank, 2004). In addition, it assumes subsidized provision increases excessive demand for water and sanitation service, especially inefficient consumption of the rich, making access of the poor difficult (World Bank 1994). Then the Bank privatization or private sector participation when providing water sector loan, and required full cost recovery as an institutional framework for making service providers accountable and efficient when providing financial assistance to new infrastructure projects.

In the energy sector, the World Bank promoted to conclude power purchase agreement with foreign private companies in Indonesia and Pakistan. This agreement contains a take-or-pay contract that assumes demand risks to the state power company and the government (Stiglitz, 2002).

The Bank also imposed to draft national environmental action plans (NEAPs)—high-profile documents that summarize a state’s plans to tackle national environmental problems—as a condition to maintaining access to funding from the IDA.

However, recipients gradually refused the Bank-imposed policies when they got out from

balance of payment crisis. During the crisis, the Bank was the last resort for funding of foreign exchange, for most of the donors, let alone private banks were reluctant to disburse new loans to avoid loss. Recipients had no other way than to accept any imposed policies and to obtain Bank loans to avoid default. But it was exception rather than rule. In most of the cases, they could choose funding source among wider range of options. They often refused the Bank-proposed new sector loans that imposed policy reform when they found alternative funding sources, as Indonesia used Japanese financial resources as an alternative in the early 1990s (Ross, 1996).

In addition, the Bank-imposed policies have caused serious adverse impacts to the environment and society. The forest sector loan to Indonesia has expanded oil palm plantation and accelerated deforestation. The Bank assumed that there is a sufficient amount of degraded forestland that could be used for oil palm expansion, and increased efficiency would promote conservation of forests. On the other hand, it did not take lack of enforcement, unclear boundaries of conversion or degraded forest areas, non-transparent concession operations, and lack of community participation in implementation and control of resources into consideration seriously. The Bank imposed policy reform such as removal of ban on the export of oil palm and replacement of the ban with an export tax and liberalization of foreign direct investment in oil palm estates accelerated oil palm plantation and did not bring sustainable forest management (World Bank, 2000b).

The water sector loan has often caused violence of private water companies on their agreements, raise of water tariffs, improper management, and excessive connection fees and tariffs. Argentine government cancelled contracts for water supply and sanitation services in Buenos Aires with the engaged company due to agreement violations; it frequently raised tariffs, did not treat wastewater and discharged untreated wastewater into a river, which disabled piped water piped for drinking. In Johannesburg, privatization caused improper wastewater treatment, frequent tariff increase and an end of service provision to those who could not pay (Flynn and Chirwa, 2005). These adverse impacts led to severe pollution of rivers and lakes and massive epidemics among those who lost access to piped water because they were forced to rely on the polluted surface water.

The NEAPs failed to enhance institutional capacity such as clear allocation of responsibility and legislation, and to ensure firm commitment for financing environmental investment (Environmental Department of the World Bank, 1995). They are also criticized by the poor degree of ownership of the process by the local government, resulting in limited effects. These are attributed to departmental thinking, lacking understanding of participatory planning, limited planning capacities, as well as time constraints and the perception of such planning processes as a donor requirement (GTZ, 2000). In the meanwhile, the Bank is blamed for dismantling mechanisms to protect social rights, rolling back labour rights, and privatizing or weakening social security system through structural adjustment loans (Abramovich, 2003). It assisted to foster the institutions of welfare and

environment, but is still criticised that they are subject to the discretion of government officials and weaken the ability of society ().

5.3.3 Adjustments

Faced with these apparent failure and massive protests to the policy reform, the World Bank made adjustments mostly on policy change strategies. The Bank identified the cause of failure in the forest sector loan in Indonesia as (a) lack of in-depth assessment of the magnitude and pace of the development of palm oil plantation; (b) lack of dissemination of analytical work and promotion of broader ownership for reform; and (c) lack of sequenced approach to reforms.

This recognition added new policy elements that emphasized information disclosure and participatory approach including institutional reform and decentralization, and created new assistance aimed for them. It initiated eco-watch program that disclosed information on firms' emission discharge, referring to the effective reduction of toxic chemicals under the US Toxic Release Inventory. It assumed that disclosure would empower stakeholders such as community, investors and workers to place stronger monitoring and pressure through market or by informal ways, and thus give incentive for pollution reduction in areas where government implement weak regulation (World Bank, 2000a). The Bank also enhanced collaboration with transnational nongovernmental organizations to support their community-based environmental protection activities as long as they did not criticize the Bank for environmental degradation of the Bank assisted projects (Goldman, 2005).

In the water sector, the World Bank gradually shifted its focus from dam construction to integrated water resource management (IWRM), which requires integration of wastewater management into a broader comprehensive water resources management policy. The Bank adopted IWRM as a response to the recommendation of the World Commission on Dam. However, the Bank applied it to the wastewater, criticizing that cconventional water and sanitation management as oversizing and unnecessarily high level of technology due to full compliance requirement with technology-based standards that proved to be financially and technically unfeasible in many countries (World Bank, 2004). IWRM allowed initially agreed water quality-related goals to be re-evaluated in light of the cost, effectiveness and cost-sharing information, and thus leads to a strategy that emphasizes water conservation, water demand management and extensive reuse. It also allows for water quality standard to vary depending on objectives classified as purposes such as collection, protection of beneficial uses and protection of ecosystem, rather than extensive end-of-pipe treatment. Thus, IWRM offered the Bank another justification for leaving existing policy contents unchanged.

The same recognition also promoted the Bank to enhance knowledge production activities to

make green neo-liberal policies as global norm (Goldman, 2005). It took advantage of its power to access to the recipients' unpublished data and information and of its monopolistic power in making and diffusing the specific knowledge widely to the world. With the monopolistic access to the recipients' unpublished internal data and materials, the Bank could make in-depth analysis, draw specific policy implications and disseminate widely through publications and training programs and play a knowledge bank role. In the name of the World Bank, it could easily convince elites of the recipients to be accustomed to its policies.

In addition, the Bank teamed up with the United Nations to gain global legitimacy to its initiated policies (Jasanoff, 1997). After the Dublin Conference in 1992 that declared water an economic good, the World Bank involved the United Nations in promoting private participation. They worked together to push water and sanitation as the main aim of the Millennium Development Goals (MDGs), which was agreed at the World Summit on Sustainable Development (WSSD). They also supported the World Water Council—a private international water think tank consisting mostly from water companies—in hosting the World Water Forum, with the aim of making ministers from developing countries recognize privatization and full cost recovery as the global norm. Furthermore, the United Nations allowed the World Business Council for Sustainable Development (WBCSD) to lead the discussion at the WSSD, and approved hundreds of public-private partnership projects in water supply and sanitation at the summit (Barlow, 2007).

With enhanced knowledge production activities and multilateral collaboration, the Bank assisted to increase influential proponents to the Bank policy and philosophy within recipient governments (Goldman, 2005). It provided budget support and training programs to the environmental agencies to push them to implement planned environmental projects and programs so that it could empower them to change policy priority in the recipient governments.

One of such assistance programs is "eco-watch" program (World Bank, 2000a). This program aimed to disclose information firms' emission and to encourage stakeholder participation so that their monitoring activities complement weak government enforcement. The Bank initiated pilot project in Indonesia and expanded it to the Philippines, China and India.

5.3.4 Effectiveness in overcoming barriers

The World Bank has seemed to overcome the barriers in lowest income recipients that depend heavily on the Bank loan as a source of foreign exchange for advancing development projects. In Laos, the Bank assisted forest policy reforms as long as Lao government accepted Bank assisted hydro dam development projects. This raised little, if any conflicts of concerns and contractual problems between the Bank and Lao government, but might raise the former if the development projects caused serious detrimental impacts on the environment and society and indigenous people,

collaborated with multilateral environmental NGOs protested to the projects. Actually, several multilateral environmental NGOs strongly opposed to the projects for fear of these adverse impacts. The Bank and Lao government successfully tamed them by forcing them to choose either way: involvement in the Bank-supported mitigation activities or continue criticism from outside of the country. In addition, the Bank assisted capacity development in the environment by hiring them as environmental consultants to draft the new forest law that adopted their proposals on the classification of land use such as national biodiversity conservation areas, and that stipulated reorganization of decentralized, community-based forest management into centralized management (Goldman, 2005). Considering that this new forest law deprived local communities of traditional entitlement to the nature and offered multilateral companies opportunities for rent seeking, the Bank overcome all the three barriers at the cost of local society and nature.

In other recipients, however, the extent to which Bank's solution has overcome the barriers depends on stakeholders and policy consistency with the social, political and institutional context of recipients. In water sector, it partly depended upon how seriously private concessionaire made attempts to improve service level, to expand coverage rate and to reduce loss of water while minimizing tariff hike to gain social acceptance. Difference in performances was apparent in the two water concessions in Manila. The has rapidly expanded both water and sewer coverage rates since 2004 (Marin, 2009), because water user involvement enabled consumption metering, efficient operation and regular maintenance by water user association, and incentive system in wage induced workers' incentive for raising service level[7]. The other one went bankrupt, thus expanded water coverage rate slightly and shrank sewer coverage rate when it faced the Asian economic crisis and failed to raise tariff to the level that it deemed necessary to expand the coverage rate.

Once faced with large hike of tariff and/or decline in service level, an increasing number of people and NGOs have allied to protest against the private provision of water and sanitation services, and to push municipalities to cancel 11% of the projects in the commitment basis (Harris, 2003) [8]. Municipalities did so at the risk of the engaged companies' taking their cases to the International Centre for Settlement of Investment Disputes, a sister institution of the World Bank, to recover their investment costs and unpaid tariffs.

Eco-watch program has succeeded in overcoming the barriers, but to a limited extent. On the one hand, it reduced the *share* of companies that rated as "incompliance" and "very poor[9]" (World Bank, 2000a). It also helped to increase the *number* of "compliance" firms in Indonesia where the government had already implemented the Clean Water Program that disclosed the firms' names in accordance with the progress of pollution reduction. It also helped reduce the *number* of "incompliance" and "very poor" firms in Zhenjiang city in China (Wang et al, 2004; Otsuka, 2007). In the process, the government has enhanced capacity to obtain and evaluate firms' environmental

performance, and has sophisticated monitoring capacity that the Bank had long assisted. On the other hand, the program was suspended just before the disclosure in the Philippines and Huhhot city in China where governments did not obtain confidence in accurate monitoring and were susceptible to political lobbying of large influential firms[10]. In addition, this program has proved limitation in providing incentive for pollution reduction to "very poor" firms and for *continuous* improvement to firms that made attempts beyond compliance and obtained the international standard organization (ISO) 14001 certificates.

This failure attributed to the unchanged policy contents. Even if the Bank tried to justify the privatization and private participation in view of efficiency improvement of service provision (Gassner, Popov and Pushak, 2009), this improvement was achieved at the cost of reduced workers. Privatization and private participation brought little, if any, improvement in the quality of service and expansion of connection areas. Furthermore, the World Bank forced recipients to tender a long-term concession contract without giving a sufficient period for them to fill the information gap and be equipped with enough authority in case of breach. Concession contract in water and sanitation service incurred higher transaction cost, creating room for private contractor to take advantage of asymmetric information, asset specificity, uncertainty and task complexity to seek huge amount of rents (Rothenberger and Truffer, 2005). This Bank's attitude in favor of private contractor, together with inflexible and complex contracts and investment targets allowed room for renegotiation, including raising tariff level. The International Centre for Settlement of Investment Disputes pushed private contractors to urge renegotiation in favour of them (Barlow, 2007). Finally, the Bank support environmental policy has a potential to overcome barriers but the potential may be temporal and limited the country where the government were cooperative to the program.

6. Discussion/Policy Implication

The above comparison implies that recipients were convinced to change, implement and sustain donor assisted policies when they were active in learning to adopt policies and technologies and found it easier to customize them to accommodate their existing policies and market needs. Also, policy changes have often been sustained when they were accompanied by technology diffusion. This was typically seen in the stringent air pollution control at coal-fired power plants and diffusion of fuel-gas desulphurization in China, environmental impact assessment and diffusion of cleaner production in the Philippines and Sri Lanka, and feed-in-tariff and diffusion of renewable energy electricity in Thailand and China. These policies have a common feature in that they have clearly defined mid- or long-term environmental targets and allowed polluter and developers flexible measures to attain the targets.

On the other hand, imposed policies that required high political and social costs have often had temporal impacts in encouraging enforcement and in improving environment. Linkage with dominant multilateral environmental concerns such as climate policies, together with donors' enhancement of knowledge production capacity and multilateral channel of communication has empowered donors to convince recipient governments to adopt donor-assisted policies. However, the World Bank has considered social and environmental impacts only within the "culture of approval" in which the Bank staffs are rewarded for moving large amount of money out of door and are pressured to meet year-end lending target, and thus tend to place priority on project proposal (World Bank, 1992). Assuming the unequal bargaining power and the differential technical capacity, recipient governments had often no other way but to accept the Bank assisted policy change. However, they have to give up sustaining changed policies when they perceived higher political costs to them than would-be long-term benefits. This is typically seen in private participation in water sector that has often caused local protests.

7. Conclusion

This paper examined what donors with different environmental discourses and policy contents have done to overcome the inherent barriers to environmental aid indicted by Keohane (1996), and what results these changes have brought. Main findings are as follows.

First, to overcome the barriers, donors changed strategy for convincing policy change and/or shifted their focus on lower-income recipients to take advantage of asymmetric power relations, while slightly adjusted initial policy contents and design within the same environmental discourses.

Second, responses to the barriers varied among donors, reflecting their policy orientation in the environmental discourse, power relationship with recipients, and resource mobilization capacity. Japan kept technological solution approach, but adjusted projects design and terms of conditions so that recipients could use it in conformity with local contexts, and gain further economic and environmental benefits. It also shifted focus China that made firmer commitment for the implementation of assisted projects. Germany and Denmark adjusted policy contents to emphasize the environmental discourse of strong ecological modernization, enhanced knowledge production capacity and shifted their focus on the diffusion to renewable energy and low-income recipients. The World Bank has kept green neo-liberalism as a basis of policy proposals, added new policy contents and enhanced knowledge production capacity and transnational network of communications to justify their original policy contents.

Third, outcomes of these changes are also varied, reflecting diversity of policy contents and strategies among donors. Recipients were convinced to change, implement and sustain donor assisted policies when they were active in learning to adopt policies and technologies and found it

easier to customize them to accommodate their existing policies and market needs. Policy changes have often been sustained when they were accompanied by technology diffusion. On the other hand, imposed policies that required high political and social costs have often had temporal impacts in encouraging enforcement and improving environment, even if donors linked aid with dominant multilateral environmental concerns, and enhanced knowledge production capacity and multilateral channel of communication.

Considering China's rapid export of photovoltaic and join in renewable electricity market in Germany, environmental aid with the ecological modernization discourse may develop capacity to adapt policies and technologies to meet local conditions and needs, as insisted in Sagar (2000). However, China may be an outlier given the performances in other recipients. It remains a future challenge to clarify whether we can generalize the case of China in redesigning environmental aid.

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Notes

1. It was not until Honda (1991) was published that cleaner production technologies had been made public in Japan.
2. In Japan, installation and operation of FGD is estimated to increase the cost of power generation by 17% (Tsunoda, Inui and Takeuchi, 2002).
3. Refer to the GTZ website (http://www.gtz.de/en/unternehmen/15534.htm) and the DANIDA development policy website (http://www.um.dk/english/dp/ddp.asp).
4. Refer to the Federal Ministry for Economic Cooperation and Development website (http://www.bmz.de/en/principles/aims/index.html).
5. Interview at the Vietnam Environmental Administration Agency on November 10, 2009.
6. Interview at the Department of Alternative Energy Development and Efficiency of Thailand, on November 4, 2008.
7. "Future of water business: Privatization in Manila," Nikkei Shinbun June 25, 2010 (in Japanese).

8. Kluge and Scheele (2008) claims that Hariis (2003) underestimated the number of cancelled projects for not including projects that private companies has not officially announced cancellation but has already stopped operation.

9. Rating criteria varied among countries. In Indonesia, the government rated as "very poor" to the firms that made no attempt to control pollution and that caused serious damages.

10. Interview at the Department of Environment and Natural Resource of the Philippines government, in July 2005.

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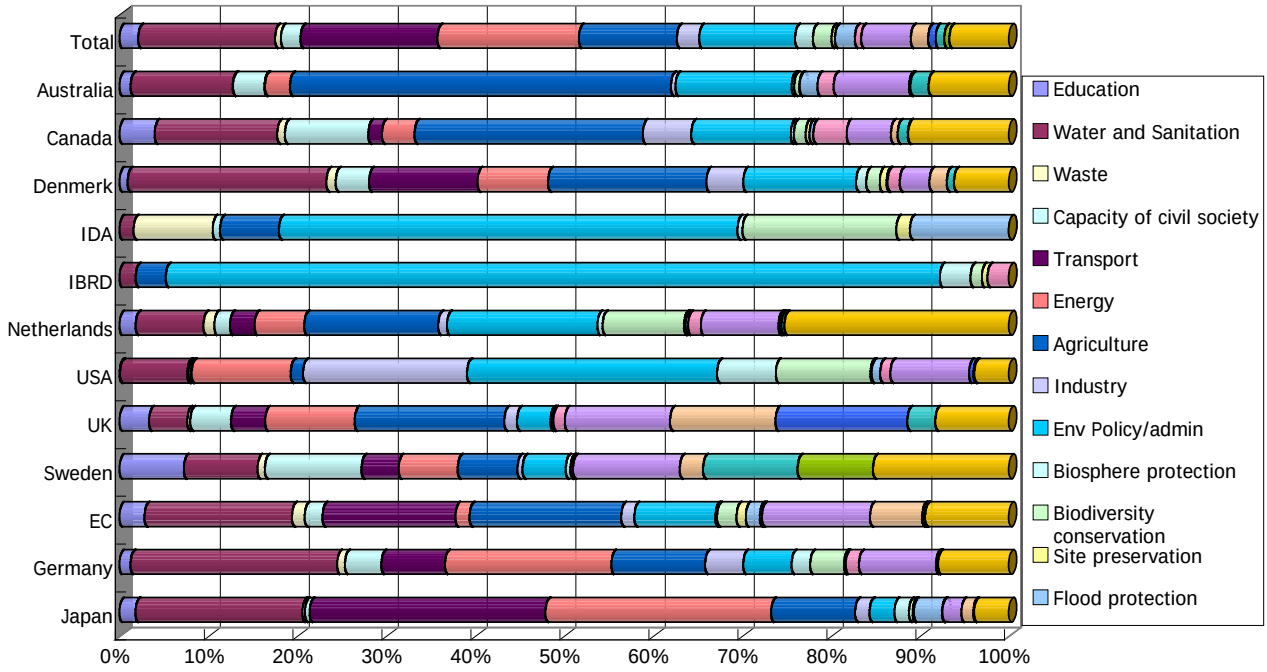
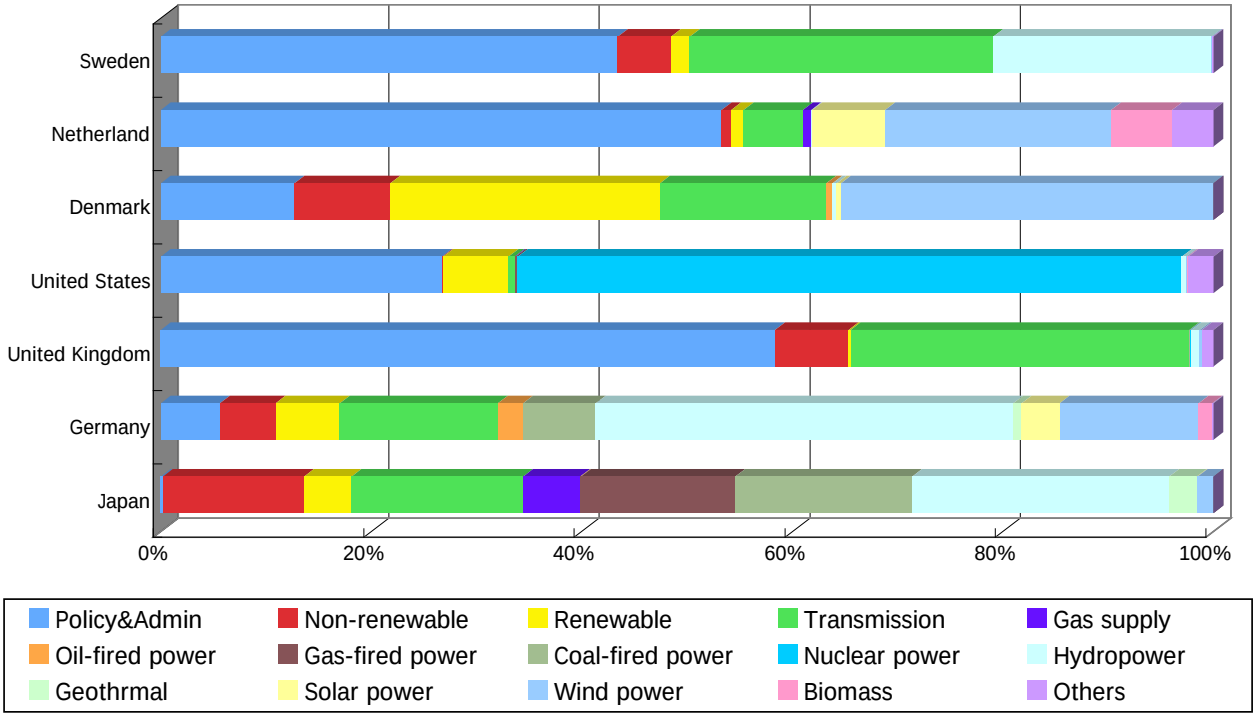
Figure 1 Sectoral Allocation of Environmental Aid by Donor, 1995-2005



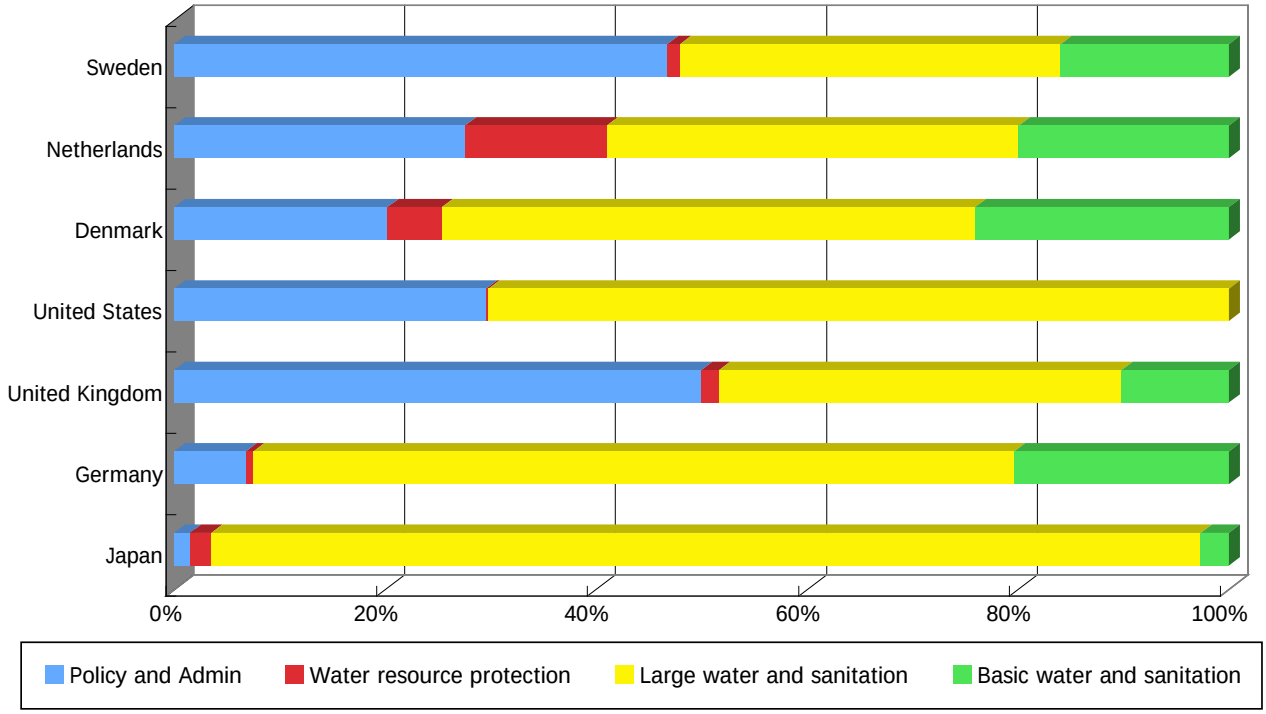
Source: OECD-DAC, International Development Statistics each year, reorganized by the author.

Figure 2 Sectoral Allocation of Environmental Aid in Energy Sector by Donor, 1995-2005



Source: OECD-DAC, International Development Statistics each year, reorganized by the author.

Figure 3 Sectoral Allocation of Environmental Aid in Water Sector by Donor, 1995-2005



Source: OECD-DAC, International Development Statistics each year, reorganized by the author..